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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/955,858	09/19/2001	Yujin Arai	01589/LH	9888
1933	7590	09/27/2005	EXAMINER	
FRISHAUF, HOLTZ, GOODMAN & CHICK, PC 220 5TH AVE FL 16 NEW YORK, NY 10001-7708			SAKELARIS, SALLY A	
			ART UNIT	PAPER NUMBER
			1634	

DATE MAILED: 09/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/955,858

**Applicant(s)**

ARAI, YUJIN

**Examiner**

Sally A. Sakelarlis

**Art Unit**

1634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 01 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 10-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 10-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☒ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submissions filed 6/15/2005 and 7/1/2005 have been entered. Claims 1-9 have been canceled, and claims 10-18 have been added. Claims 10-18 are pending. Applicant's amendments and arguments have been thoroughly reviewed, but are not persuasive for the reasons that follow. Any rejections not reiterated in this action have been withdrawn as necessitated by applicant's amendments to the claims. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

### ***Priority***

Acknowledgement of claim to foreign priority of Japanese Application, 287618, filed 9/21/2000 under 35 U.S.C. 119(a)-(d) has been made, however applicant should note that the translation of this foreign priority document has not yet been received and as a result the priority document cannot be relied upon to overcome the cited prior art.

***Response to Arguments***

Applicant's arguments with respect to now cancelled claims 1-9 have been considered but are moot in view of the new ground(s) of rejection on applicant's newly filed claims 10-18. New rejections appear below.

***Claim Rejections - 35 USC § 112***

1. Claims 10-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A. Claims 10-18 are indefinite as their final process step does not agree back to the preamble of the claim. Claim 10's preamble recites a step of acquiring image data from a sample but includes a final process step of moving the boundary inside the first scanning region. As a result, it is unclear if the method is drawn to acquiring image data or to moving the boundary inside the first scanning region, appropriate correction is suggested.

B. Claim 14 is indefinite over the recitation of "the moving" The phrase lacks antecedent basis as claim 10 recites a step of moving "the boundary inside the first scanning region" but not "moving the boundary when intensity of the measured light is higher than a predetermined threshold". It is therefore unclear which step of "moving" is being identified by the claim and appropriate correction is required.

***Claim Rejections - 35 USC § 102***

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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2. Claims 10-12 and 14-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Tuhro et al.(US Patent 4,471,386).

Regarding claim 10, Tuhro et al. disclose a method of acquiring image data from a sample, wherein the sample is divided into a plurality of scanning regions, and the scanning regions each have a predetermined size(See Col. 2 lines 61-68), the method comprising the steps of: scanning a first scanning region to measure light from the sample with a phase linear scanning array(Col. 3 lines 7-9);

measuring light on a boundary between the first scanning region and a second scanning region that is adjacent to the first scanning region(Claim 1 steps (d) (e), and (f)), and moving the boundary inside the first scanning region(Claim 1 steps (f)- (h)).

Regarding claim 11, Tuhro et al teach a method which includes plurality image data acquisition comprising scanning a sample of originally printed characters, which includes a plurality of spots and furthermore a plurality of spots that emit light as they are made from a retro-reflective material(60, 61, Col. 3 lines 44-63) that are arranged on a substrate of the sample, and the moving includes moving the boundary between spot lines(Col. 4 lines 35-43)

Regarding claims 12, 16 and 17 Tuhro et al. teaches the method wherein the light is reflection light, transmission light, scattered light or fluorescence(Col. 3 lines 44-63).

Regarding claim 14, Tuhro et al teaches the above method wherein the moving includes moving the boundary when intensity of the measured light is higher than a predetermined threshold(Col. 5 lines 3-35 e.g."other marking arrangements and configurations may be contemplated").

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Regarding claim 15, Tuhro et al. teach the method further comprising acquiring scanned image data with the measured light within the first scanning region(Claim 1 for example);

scanning the second scanning region to measure the light from the sample, the second scanning region having the boundary moved inside the first scanning region(Lines 45-5 bridging Col. 5-6);

acquiring scanned image data with the measured light within the second scanning region; and(Col. 5 lines 3-35).

acquiring image data of a region including the first scanning region with the scanned image data of each scanning region(Col. 5 lines 3-35).

Regarding claim 18, Tuhro teaches the step of scanning to include moving the sample in their teaching that “a document feed roll 34 is provided to advance the document 18 to be scanned”(Col. 2 lines 48-53).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tuhro et al.(US Patent 4,471,386) in view of Rava et al.(US Patent 5,874,219 issued 23 February 1999).

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Regarding claim 10, Tuhro et al. disclose a method of acquiring image data from a sample, wherein the sample is divided into a plurality of scanning regions, and the scanning regions each have a predetermined size(See Col. 2 lines 61-68), the method comprising the steps of: scanning a first scanning region to measure light from the sample with a phase linear scanning array(Col. 3 lines 7-9);

measuring light on a boundary between the first scanning region and a second scanning region that is adjacent to the first scanning region(Claim 1 steps (d) (e), and (f)), and moving the boundary inside the first scanning region(Claim 1 steps (f)- (h)).

Regarding claim 11, Tuhro et al teach a method which includes plurality image data acquisition comprising scanning a sample of originally printed characters, which includes a plurality of spots and furthermore a plurality of spots that emit light as they are made from a retro-reflective material(60, 61, Col. 3 lines 44-63) that are arranged on a substrate of the sample, and the moving includes moving the boundary between spot lines(Col. 4 lines 35-43)

Regarding claims 12, 16 and 17 Tuhro et al. teaches the method wherein the light is reflection light, transmission light, scattered light or fluorescence(Col. 3 lines 44-63).

Tuhro et al. do not teach the above method of image data acquisition wherein the sample is a DNA microarray.

However, Rava et al. disclose a method of image data acquisition comprising scanning a sample, which includes a plurality of spots(Col. 2 lines 3-6) on a substrate with a light beam(Col. 6 lines 5-10); acquiring scanned image data by receiving a light from the sample, and sequentially storing the acquired scanned image data; and storing the scanned image data obtained by scanning a region(defined in specification as “strip”) of a predetermined size every

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time a region scanned by the light reaches a predetermined size(ie. a “strip”), sequentially (Column 5 lines 45-56, Column 6 lines 40-53). Rava et al. disclose the image data acquisition method above wherein, the size of the scanned region by the light is changed according to an arrangement position thereof, when a plurality of measurement objects are arranged in the sample(Claims 16(b) and Claim 34(b)). Rava et al. teach in the cited claims that the size of the scanned region is changed through “the means for focusing the excitation light to a point on a substrate”(Clm 34) and further by using the “optics for directing an excitation light”(Clm 16).

Specifically regarding claim 13, Rava et al. disclose the image data acquisition method according to claim 10, wherein the sample is a DNA microarray in which a plurality of spots are arranged as a measurement object, and the size of the scanning region(strip) is such that a boundary in the scanning region is not overlapped on the spot(Column 6 lines 49-50, Column 12 lines 1-9). In referencing the specification on page 18, it appears that “boundary” is meant to define the outer edges of the region(strip) and as a result this claim’s embodiment is taught in Rava et al.’s teaching that in their method, “a strip has been scanned”(Col. 6). Applicant should note that since only a strip has been scanned, a boundary in the scanning region is not overlapped on the spot as the boundary is understood to exist outside the spots and in this example each strip(region including spots) is scanned; not a strip and a spot, or not spots overlapping the strip boundary.

Therefore, it would have been *prima facie* obvious to one of ordinary skill in the art at the time the claimed invention was made to apply the DNA based, parallel processing analysis of Rava et al. to the image acquisition method of Tuhro et al. for the expected benefit of “continuously integrated and processing data”(Rava et al. Col. 6, lines 40-53) which would be



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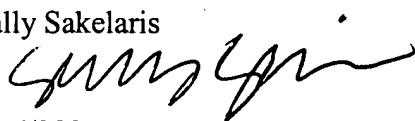
“advantageous in settings in which large amounts of information are required quickly, such as in clinical diagnostic laboratories or in large-scale undertakings such as the Human Genome Project”(Rava et al. Col. 1 lines 52-58).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sally A. Sakelaris whose telephone number is 571-272-0748. The examiner can normally be reached on M-Fri, 9-6:30 1st Friday off.


If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Gary Jones can be reached on 571-272-0745. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sally Sakelaris



9/16/2005



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